MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY.

UNDER THE CHARGE OF
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GYMNOCLADUS CANADENSIS: THE KENTUCKY COFFEE BEAN.

This has been the subject of a research by DR. BARTHOLOW in the Laboratory of Experimental Therapeutics of the Jefferson Medical College. A preliminary report is now made.

It has been known that the coffee bean possessed a certain toxic activity. Flies have been observed to be stupefied by it. As it belongs to the same natural order as physostigma—Calabar bean—it would be supposed, *a priori*, to have analogous powers. Experiment confirms this view. The experiments were made with a concentrated aqueous extract, furnished by Prof. J. M. Lloyd, of Cincinnati.

Gymnocladus was found to affect sensibility, and afterward motility. The area of distribution of the fifth nerve appears to be the last part of the sensory nervous system to retain its irritability. In ten minutes after injecting, subcutaneously, ten minims of the extract in frogs, there was complete sensory paralysis, so that no strength of irritation caused muscular movements. Spontaneous movements ensued, however, and when the skin of the face, or of the eyes, was touched, the lids closed. Vision was chiefly concerned in this response. When the effects attained the maximum, there was universal anæsthesia, and the cerebrum began to be stupefied. With the first impression, vision was rather keen, and the attention lively, but as the effects deepened a soporose state came on. Then the cornea became anæsthetized, so that on irritating it no movements of the eyelids took place, unless the attention was roused enough to direct the vision to the approach of objects.

As regards the motor nervous system, the first effect is a spastic condition of the voluntary muscles generally—the whole body passing into a state of continuous rigidity, followed by paresis beginning in the hind extremities. The motor nerves do not lose their irritability, nor do the muscles fail to contract on indirect and direct stimulation. When the full effects of gymnocladus are produced, and the sciatic nerve stimulated by the faradic current, the calf muscles are thrown into active contractions, and the muscles directly irritated respond energetically. The effects are therefore central and not peripheral. The spastic condition of the voluntary muscles does not entirely cease, and the paralysis throughout wears an aspect of rigidity.

Gymnocladus slows the heart by stimulating the vagus, thus increasing inhibition; afterward with the toxic action reduces its force by an impression, probably, on the cardiac motor ganglia. The number of pulsations of the heart in frogs is reduced one-half. Some lowering of the arterial tension was also noted after the considerable rise first caused by the action of the agent.

From the above experimental data, it is obvious that gymnocladus promises rich returns to the clinical experience of the future.

POLYGANUM HYDROPIPEROIDES.

This member of our indigenous materia medica has, oddly enough, excited but little attention notwithstanding its remarkable powers. The first effort to attract professional notice to it, as a remedy, was made by a student of the Medical College of Ohio, in 1832, who submitted a thesis for the Doctorate on Polyganum Hydropiperoides as an emmenagogue. This thesis has been read by the writer. At that time, the late Dr. John Eberle was Professor of Practice in that college, and it is believed read the essay, and incorporated so much of it as suited his purpose in the succeeding editions of his treatise on therapeutics.[1] He says, in regard to its use in amenorrhœa, that "with no other remedy or mode of treatment has he been so successful as with this." The late Prof. M. B. Wright, M.D., of Cincinnati, the well-known obstetrician, had an equally high opinion of its value, as he personally informed the writer, and constantly prescribed a saturated tincture for this purpose. At my suggestion, an experimental investigation of its physiological actions was undertaken by Mr. J. Elmer Porter, of the graduating class of 1885–86, in the Laboratory of Experimental Therapeutics of the Jefferson Medical College. I subjoin a condensed summary of his conclusions:

General effects, studied chiefly on cats. Preparation: the fluid extract; dose ʒij to ʒv, administered by injection into the peritoneal cavity. The smaller of the two doses was recovered from in twenty-four hours; the larger proved to be lethal in cats weighing three and a half pounds.

It caused incoördination of muscular movements, paresis of the hind extremities, and ultimately general paralysis, contracted pupils, stupor gradually passing into coma, increase in the respiratory movements, and slowing of the heart. After some hours—about eight, when the lethal dose is given—an attempt at recovery ensues, consciousness partly returns, but death occurs in about twelve hours (heart failure?). In cats, after death, the right cardiac cavities are distended, the left contracted and empty.

Effects on particular organs. The motor paralysis is spinal in seat. The motor nerves preserve their irritability, the muscles their contractility.

Sensibility is not impaired, the nerves of sensation retaining their power.

The reflexes are first depressed, and finally abolished, as the action on the spinal cord deepens.

The respiratory movements are first increased in number by stimulation of the respiratory centre in the medulla, but death ensues by paralysis of the respiratory muscles, the heart continuing in action somewhat longer.

The slowing of the heart is not due to stimulation of the vagus or of the inhibitory ganglia, but to an action on the cardiac motor ganglia, which are ultimately paralyzed.

The blood-pressure is somewhat lowered, as the tracings made clearly exhibit, and this effect is due to the depression of the cardiac motor ganglia and of the vasomotor centre in the medulla. Temperature is not sensibly affected.

A decided increase of the secretion of various glands—salivary, nasal, gastro-intestinal, cutaneous, and renal—occurs, and is due to stimulation of the excito-secretory nerves.

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[1] A Treatise of the Materia Medica and Therapeutics, fourth edition, vol. i. p. 441.

The abortifacient effects are quite decided. Impregnated animals—cats and rabbits—abort promptly under its influence. This effect, experimentally demonstrated in animals, is comparable to the clinical observations, proving the power of hydropiper in amenorrhœa.

If the effects of hydropiper are compared to those of pilocarpine, a close analogy may be discerned; the differences are rather of degree than kind.

HYPNONE.

Hypnone—the new hypnotic, since its introduction a few months ago, has attracted considerable attention. We place before our readers abstracts of some of the more important contributions.

MM. DUJARDIN-BEAUMETZ and G. BARDET present an analysis of its chemical and physiological actions, and suggestions for its therapeutical employment, in *Bull. Gén. de Thérapeutique*, of January 15, 1886.

Discovered in 1857 by Friedel, acetophenone (hypnone) is a type of a large class of mixed acetones derived from two organic acids—one from the fatty, the other from the aromatic series, whence the name *aromatic acetones*, which has been given to this group of bodies. According to Friedel, the proper title of this substance is *phenylmethylcarbonyle*, but Dujardin-Beaumetz has given it the name *hypnone* as a designation which expresses its physiological properties.

Hypnone is obtained by distillation of a mixture of benzoate and acetate of calcium. At the ordinary temperature it is liquid, but if cooled 4° to 5° it becomes a crystalline mass. As a liquid, it is colorless, very mobile, and boils at 198° C. Its density is nearly that of water. One cubic centimetre contains 39 or 40 drops. Each drop weighs about 2½ centigrammes (nearly ½ grain). It is neutral in reaction, but is rather irritating—even caustic—and when applied to the mucous membrane it causes somewhat severe burning pain. It is not soluble in water or in glycerine, but dissolves freely in alcohol, ether, chloroform, benzine, and turpentine. As it has a rather persistent and not agreeable odor, it is difficult to administer. M. Vigier proposes the following as the best formulæ:

Hypnone	1 drop.
Alcohol of 90 degrees	15 minims.
Syrup of orangeflowers	1½ drachms.

Hypnone	1 drop.
Alcohol of 60 degrees,	
Syrup of peppermint . . . . . of each	45 minims.

Dr. Dujardin-Beaumetz thinks the true mode of administering hypnone is in capsule, dissolved in oil or in ether. The capsules may contain 5 to 10 centigrammes (2½ to 5 drops).

Dr. Dujardin-Beaumetz includes in his account of the physiological actions of hypnone, the observations of Grasset, Laborde, Mairet and Combemale, and Dubois and Bidot. After passing in review the phenomena observed in the different classes of animals, he submits the following conclusions:

Hypnone appears to have a triple action: it affects the nervous elements, lessening their functional power; it lowers the blood-pressure; and, in toxic quantity, modifies the composition of the blood. It is to be included in that group of medicinal agents having hypnotic power by diminishing the cerebral circulation and lessening the excitability of the nerve elements. It is eliminated by the lungs and by the kidneys. According to Popof and Nencki, it is decomposed in its passage through the organism into carbonic and benzoic acids, and is found in the urine ultimately as a hippurate.

Although a poison in sufficient doses, no other effect has been observed in man than sleep. Even when the administration of this agent has been continued for a month, Dujardin-Beaumetz has not observed the denutrition effects noted by Mairet and Combemale in animals, but he never exceeded the dose of 50 centigrammes (about 8 grains). The following are the results of the administration in a healthy man of 20 centigrammes (3 grains), dissolved in ether and given in capsules: At the moment of the rupture of the capsule in the stomach, a sensation of heat is experienced, and in a period which varies from twenty minutes to an hour, the eyes are closed and sleep follows. The sleep is calm; it may be even profound, and the awakening is easy, without nausea and loss of appetite. Sometimes there is a sense of hebetude, or headache. He has observed no other modification of the functions; the respiration and circulation continue normal, and the blood, on spectroscopic examination, exhibits no changes. A notable increase of appetite has been observed in some instances.

The therapeutical applications of hypnone will be confined almost exclusively to the treatment of insomnia. It is neither analgesic nor anæsthetic, and hence in the treatment of insomnia accompanied by pain it is far inferior to chloral. In the wakefulness of phthisical subjects, caused by cough, it proved to have but little effect. Also, in the insomnia of fever, it was found to be less efficient than choral, even than paraldehyde. The special field of its utility is the nervous insomnia caused by cerebral excitation, which results from mental work or alcoholic excess.

In assigning it to the place which he thinks it will permanently occupy, Dr. Dujardin-Beaumetz places hypnone in the class with chloral and paraldehyde, but in a rank much inferior to the former, and scarcely equal to the latter.

After a consideration of the relative merits of the capsules and the perle as a means of administering hypnone, MAYET concludes that the former is preferable. He holds, further, that sweet almond oil is a better vehicle than ether, as the eructations following when the latter is used, are very offensive to the patient.—*Les Nouveaux Remèdes*, Dec. 15, 1885.

THERAPEUTICAL EFFECTS OF ADONIDIN—A GLUCOSIDE, THE ACTIVE PRINCIPLE OF ADONIS VERNALIS.

DR. ARMAUD DURAND, in *Bull. Gén. de Thérapeutique*, Jan. 30, 1886, writes on this subject: *Adonidin* is an amorphous, bitter substance, colorless and inodorous, soluble in ether and in water; but more soluble in alcohol. It contains no nitrogen.

The action of adonidin is exerted chiefly on the heart, but it has, also, decided diuretic effects. It diminishes the number of heart beats—in one instance to 46—and it increases their strength. It raises the vascular tension, and this effect is produced very rapidly. The feeble and irregular action becomes strong and regular under its influence. Adonidin, however, is without beneficial effect in those nervous troubles of the heart, such as exophthalmic goitre, and similar conditions.

The diuretic action was very marked in various cases in which it was administered, the amount of urine discharged, in some instances, being doubled in quantity.

In very large doses adonidin caused vomiting and diarrhœa, and an acrid, bitter taste persisted for several hours after the vomiting, but these appear to be toxic phenomena, and are not produced by ordinary medicinal doses. It appears to have no cumulative effects. The medium dose is 2 centigrammes (⅓ to ½ grain).

The indications for the use of adonidin appear to be the same as those for the use of digitalis. The actions above attributed to it are the same as those ascertained by Bubnow and others in Russia, and by Altmann, Leyden, and others in Germany. It appears to have some advantages over digitalis, in that it is less apt to disorder the stomach, and is less dangerous.

SOME NEW PURGATIVES.

Under this caption, DR. DESNOS, in a note to the Academy of Medicine (*Bull. Gén. de Thérap.*, Jan. 30, 1886), narrates his experience with that group of cholagogues which were the subject of physiological investigation by Prof. Rutherford, of Edinburgh. Dr. Desnos's study included the following resinoids: Baptisin, sanguinarin, juglandin, and phytolaccin. His conclusions are based on observations made on forty-eight patients suffering from various ailments. ~~With sanguinarin he had only negative results, although~~ given in doses considerably larger than those recommended (60 centigrammes, equivalent to 9 grains). On the other hand, he found baptisin and juglandin to be tolerably certain purgatives and efficient cholagogues, in doses of 20 to 30 centigrammes (3 to 5 grains, in round numbers). Phytolaccin (resinoid of phytolacca decandra—poke) proved to be the most efficient member of the group. In doses of 10 to 20 centigrammes (1½ to 3 grains), it causes easy and abundant bilious stools. Dr. Desnos summarizes his experiences as follows:

"I conclude, then, that baptisin and juglandin are laxatives which may, perhaps, render considerable service, with the exception of some inconveniences [uncertainty of action, tormina, and tenesmus], and that phytolaccin, which is more certain, and in part exempt from the inconveniences just mentioned, is an important contribution to the therapeutics of constipation."

ON THE EMPLOYMENT OF THE SALICYLATE OF LITHIUM IN THE TREATMENT OF RHEUMATISM.

In the treatment of acute rheumatism, as also in acute gout, the salicylate of lithium is quite as effective as the salicylate of sodium. In certain cases of acute articular rheumatism treated with the sodium salt, there comes a period, after rapid and considerable improvement, when the joints still remain somewhat painful, stiff, and swollen, notwithstanding the fact that the remedy is given in doses sufficient to cause toxic phenomena. Under these circumstances the salicylate of lithium will cause the last traces of the affection to disappear promptly. It is also more effective in the treatment of progressive subacute articular rheumatism. In patients attacked with this most tenacious and troublesome form of rheumatism, VULPIAN has employed, with the utmost perseverance, the most various medication, including large and repeated doses of the salicylate of sodium, without producing other than the most temporary and insignificant amelioration; and yet he has seen the salicylate of lithium bring about notable improvement in ten to fifteen days. Four grammes (about sixty grains) a day is the quantity of salicylate of lithium usually required. The effects of the remedy begin to be manifest in a half to one hour, and consist in headache—which, however, disappears within a few hours —and vertigo and dulness of hearing, which are more persistent. In some subjects it also causes colic and diarrhœa.

The curative effect of salicylate of lithium is due in large part to the salicylic acid; for, if the other salts of lithium are substituted for it, the same results are not obtained. Some portion of the beneficial effect is, however, due to the lithium, for the salicylate of lithium is more effective than the salicylate of sodium. The rheumatismal manifestations which resist the action of six and seven grammes (ʒiss–ʒij) of salicylate of sodium yield to four grammes (about ʒj) of salicylate of lithium.

To these observations of Prof. Vulpian (*Revue de Thérapeutique*, Jan. 15, 1886), the writer will add that he has found the salicylate of lithium very effective in myalgia or muscular rheumatism, given in the quantity mentioned above—fifteen grains four times a day.

ON SOME POINTS IN CLINICAL THERAPEUTICS.

According to DR. BURNEY YEO (*Lancet*, February 6, 1886), one of the most remarkable gains in the treatment of disease in recent years has been the employment of large doses of iodide of potassium in the treatment of deep aneurisms. In common with many physicians, he has seen more satisfactory results follow this mode of treatment than any other, yet when he first began the use of iodide of potassium in the treatment of aneurisms his results were disappointing, and his belief in the remedy slight. But in the year 1877, on the occasion of the meeting of the British Medical Association at Manchester, he was fortunate enough to see in the infirmary of that city a number of cases of thoracic aneurisms, which had been collected together by Dr. Simpson, for the purpose of showing the members of the Association the value of the iodide of potassium treatment in such cases. It was certainly a remarkable series of cases, and the results were excellent; and it was then he found that whereas in London he and others, who had tried this treatment, had been content with giving five grain doses three times a day, Dr. Simpson had given twenty, thirty, and forty grain doses instead. Now, as soon as he began using these large doses of iodide of potassium in the treatment of internal aneurisms he realized their great remedial value, and he has had the happiness of seeing most admirable results follow the prolonged administration of these large doses. It is only by clinical methods of observation that he could have established a fact of this kind. Many suggestions were made as to the mode of action of the iodide in these cases. The first to be put forward was that the cases in which the iodide proved of value were syphilitic cases, and that its beneficial effects were due to its antisyphilitic properties. But this view, as Dr. Balfour has pointed out, would only make its action more mysterious. Another suggestion was that the iodide increased the coagulability of the blood, and this it may possibly do; but post-mortem examinations seem to show that the process of cure is obtained chiefly by "some peculiar action on the fibrous tissue," causing thickening and contraction of the walls of the sac. It had been noticed clinically that in some cases under the influence of the iodide, the pulsations in the aneurismal sac and throughout the arterial system were much diminished in force, and this was referred to a reduction in the intra-arterial blood-pressure brought about by the action of the drug. Physiological experiments appear to confirm this view, and to show "that one of the chief actions of iodide of potassium is to lower blood-tension uniformly throughout the body by dilating the arterioles," and, at the same time, diminishing the force of the heart's action.

DR. WILKS, whose skill, caution, and insight as a clinical observer will be universally admitted, has satisfied himself by clinical observation solely that arsenic has the power of preventing attacks of gout and angina pectoris. He is impressed, too, with its remarkable value in relieving some forms of asthma, in certain neuralgias, in cases of anæmia and impaired nutrition, and especially in certain cases of general cachexia of doubtful origin. Dr. Clifford Allbut has also borne unhesitating testimony of its value in the treatment of many forms of visceral neuralgia. Now these observations, the accuracy of which has never been seriously called in question, are due entirely to the clinical method. Let us see what amount of agreement exists amongst experimental pharmacologists as to the action of arsenic. Sklarek considers his experiments to have demonstrated that arsenic impairs sensibility and leaves the motor functions unimpaired; on the other hand, Ringer and Murrell's experiments, it is maintained, prove that Sklarek's conclusions are incorrect, and that motor paralysis precedes the loss of sensibility. Then it has been established, or, at any rate, authoritatively stated, that the effects of arsenic on the circulation are not the same in warm- and cold-blooded animals; so that inferences from observations made on the vasomotor system of cold-blooded animals cannot be applied to the case of mammalian animals, and, therefore, to human beings. The statement of Saikowsky, that arsenic causes fatty degeneration of the liver, kidneys, heart, and other organs, would scarcely have led us to any great enterprise in its application to the cure of disease, nor does it throw any light on the well-known fact that the arsenic-eaters of Southern Austria and Styria, who take enormous quantities, "improve in bodily condition, gain in breathing power, and become stronger and more pugnacious, and also more salacious." Moreover, it has been stated as the result of experimental investigations, that arsenic arrests the formation of glycogen in the liver, and by one observer that it lessens the excretion of urea (C. Schmidt), and by another (Prof. Güthgens) that it causes an actual increase of the amount of urea excreted. Dr. Wilks thinks we may fairly say, with regard to the therapeutic uses of arsenic, that we have acquired more precise knowledge from our clinical method than we could have derived from results of pharmacological experiments.

Another fact in therapeutics which could only have been derived from clinical observation is the much greater efficacy which aconite possesses in arresting or modifying the febrile process in children and young people than in persons of mature age. It is quite remarkable how a few doses of aconite will rapidly subdue the febrile attacks which are commonly associated with local inflammation or other disturbances of health in children and young people, while an expectation of the same results in persons of riper years will be attended by disappointment.

Phthisis and its Treatment by Carbolic Acid.

Dr. Filleau (*Revue de Thérapeutique*, Feb. 1, 1886) has just communicated to the Société Medico-pratique the facts of an original and efficacious treatment that has given him the best results in advanced consumption—the treatment by carbolic acid. The carbolic acid must be pure, and in white crystals. When it is impure it becomes colored little by little until it is reddish-brown. It then contains rosaline and rosacilic acid, which may be injurious by their coagulant action on albumen. He employs two methods for administering carbolic acid in the treatment of tuberculosis; the hypodermatic and the stomachic. The process by hypodermatic injections has distinct advantages.

The injections made with a solution of pure carbolic acid are inoffensive; they neither cause abscesses, plegmons, nor even simple nodosities. They are little painful, and the patients never refuse them in any case.

The solution which he uses is this:

Distilled water	95 grammes.
Glycerin, neutral	q. s.
Crystallized carbolic acid	1 gramme.

The dose of carbolic acid can be administered without inconvenience up to two grammes (ʒss). These injections are made in a quantity of a hundred drops, by means of a syringe holding five grammes; they can be given every two days, or three times a week, according to the indications. He inserts the injection as near as possible *loco dolenti*, except in cases of very marked emaciation. For administration by the stomach, he has recourse to the neutral phenoglycerine, which is very well supported by the stomach, and which is prepared according to the following formula:

Glycerin, neutral	400 grammes.
Crystallized carbolic acid	2 "

A teaspoonful contains 15 centigrammes (about 2½ grains). The dose can be raised to four spoonfuls a day, according to the toleration. Dr. Filleau reports many fortunate cases, which permit him to come to the following conclusions:

The parasitic doctrine of tuberculosis being admitted, one is authorized to consider carbolic acid as the best antiseptic to employ against its manifestations. Carbolic acid is the only antiseptic which, up to the present time, can be administered hypodermatically in large doses during an unlimited time without causing accidents. The tolerance for and harmlessness of carbolic acid administered hypodermatically are clearly demonstrated. Under the influence of this medication, the general state of the patient speedily improves. The local state is at the same time advantageously modified.

The treatment in all cases demands, on the part of the patient and of the physician, long persistence.

INJECTIONS OF ARSENIC IN TUBERCLE GANGLION.

DR. RECLUS publishes the treatment of a case of ganglionic affection of strumous or tuberculous nature by interstitial injections of Fowler's solution, where the result was rapid and the success remarkable.

A person twenty-four years old had, in the subhyoidean region a tumor, which was voluminous, and of woody hardness, formed by two hypertrophied ganglia. Extirpation was decided on, but before attempting it Dr. Reclus advised recourse to arsenical injections. The patient, at the same time, was taking arsenious acid internally, in the daily dose of two to six milligrammes.

Twelve injections of Fowler's solution in the ganglion mass were made with a Pravaz syringe, eight drops the first time, then twelve drops the other times, at intervals of four to five days.

The tumor diminished so rapidly in size that after two months of treatment the submaxillary region regained its normal form, and palpation would have been necessary to find in the place of the tumor a hard mass the size of a pea.

TOXIC EFFECTS OF THE OXYGEN COMPOUNDS OF PHOSPHORUS.

PROF. SCHULTZ has lately studied the toxic effects of the compounds of phosphorus with oxygen (*Archiv für experiment. Pathologie u. Pharm.*, 1885, Heft 1). He included in the examination, hypophosphorous, phosphorous, hypo-, meta-, pyro-, and ortho-phosphoric acids. The preparations used were the neutral sodic salts, and the method of administration consisted in the subcutaneous injection in rabbits.

He ascertained that the hypophosphite had no poisonous action. The phosphite, on the other hand, proved to be an energetic poison, acting especially on the central nervous system and on the abdominal glands. The hypophosphate and the meta- and pyro-phosphate acted as poisons on the stomach and intestines, but the orthophosphate was without toxic power. In fine, the poisonous effects were in an inverse ratio to the number of pairs of oxygen atoms.

The deoxidizing action affects especially the cells, and is more energetic than the oxidizing action. Schultz and Binz, studying this subject in collaboration, had already announced this theory in their examination of arsenic. It is always the oxygen displaced, which effects the changes in the cells acted on. In the same way the therapeutical action of these agents—arsenic, phosphorus, antimony, etc.—is accomplished: "they impart a new vitality to those cells in a feeble state."

Schultz explains in this way the action of the whole series of metallic poisons, which produce the same phenomena in a more or less sensible manner, the variations being due to the differences of their affinity for oxygen. Sometimes there are differences due to the fact that the heavy metals form albuminates, which is not the case with phosphorus and arsenic. But this formation of albuminates does not have the importance of a final phenomenon; it is but a means to an end. In the case of gold, silver, and mercury, it is not oxygen, but chlorine, which brings about the results. It is thus, in the presence of reducible substances that corrosive sublimate is converted into calomel, and calomel is, on the other hand, transformed into corrosive sublimate. Free chlorine in the presence of water, decomposes it, and it is always the active oxygen thus liberated that brings about the results above indicated. In the case of tin, zinc, copper, and silver, it is not yet exactly ascertained whether oxygen alone, or through the intermediation of chlorine, effects the changes. But all of these substances manifest their powers in the same way, the intermediate process differing with each element; and thus it is that the specific energy of each element is the source of its therapeutical value.

MEDICINE.

UNDER THE CHARGE OF

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TYPHOID FEVER.

The hemorrhagic diathesis in typhoid fever. We can scarcely recognize a hemorrhagic variety of this disease comparable to the malignant form of smallpox, scarlet fever, or measles, in which there are early bleedings from the mucous surface and extravasations into the skin. From the description by Griesinger, however, we infer that he had seen cases of the kind, but more commonly the hemorrhages take place late in the disease, and are not of the uniformly fatal significance of the initial bleeding in other specific fevers.

WAGNER (*Deutsches Archiv für klin. Medicin*, Bd. xxxvii.) records nine cases, of which six proved fatal. In only one instance did the hemorrhage occur as early as the tenth day; in the majority it began from the twentieth to the twenty-third day. The blood came from the gums, lips, nose, bowels, and kidneys, and in some instances was found effused in most of the organs. The cases were usually debilitated or scrofulous individuals. GERHARDT (*Zeitschrift für klinische Medicin*, Bd. x.) records five cases, of which three recovered, and deals fully with this condition. He regards it as a late complication, most likely to be met with in delicate or scrofulous persons, but in some cases dependent probably upon the debility due to prolonged fever, the exclusively animal diet, and perhaps upon the cold water treatment. In fifty-three autopsies in typhoid fever at the Montreal General Hospital (*Canada Medical and Surgical Journal*, vol. xiv.) there were five cases which presented hemorrhagic lesions. In one there had been profuse hæmoptysis a week before death. RAYMOND (*Revue de Médecine*, Nov. 10, 1885) reports two cases, in one of which uncontrollable hemorrhage followed the opening of an abscess in the sacral region, and in the other death took place in the second week from meningeal hemorrhage. In the first case there were found extensive alterations in the walls of the bloodvessels in the neighborhood of the abscess associated with the presence of numerous microörganisms.